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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,535	10/27/2003	Takeshi Hara	1924.68654	1907

24978 7590 03/06/2006

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EXAMINER
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WONG, KIN C

ART UNIT	PAPER NUMBER
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2651

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/694,535	<b>Applicant(s)</b> HARA ET AL.	
	<b>Examiner</b> K. Wong	<b>Art Unit</b> 2651	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 December 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-13 and 15 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

This is a response to amendment filed on 12/19/05.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims (10-13 and 15) are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamaguchi et al (6473254) in view of Wilson et al (6118603).

Regarding claim 10: Hamaguchi et al discloses a magnetic disk apparatus (in figure 3 of Hamaguchi et al) including a magnetic disk (element 12 in figure 3) having servo patterns (in figure 7 of Hamaguchi et al) on which position signals for controlling a position of a magnetic head (element 11 in figure 3) on the magnetic disk are written, the magnetic head having a head sensitivity characteristic value (in col. 14, lines 16-25 of Hamaguchi et al which is in line with the instant specification on page 24, line 9 to page 25, line 12), including:

a correction calculation unit that calculates a correction value to correct the position signals read from the servo patterns, using the head sensitivity characteristic value (in col. 13, lines 5-12 and col. 14, lines 16-43 where Hamaguchi et al describes the calculation functions for correcting position signal that read from the servo patterns); and

a servo control unit that carries out a servo control of the magnetic head based on the correction value (in col. 14, line 60 to col. 15, line 17 of Hamaguchi et al). Thus,

the recitations of the claim are consider satisfied because Hamaguchi et al discloses the head position correction that uses the head sensitivity characteristic value or sensitivity position coefficient.

However, Hamaguchi et al is silent on a plurality of the first servo sectors and a plurality of second servo sectors in an alternating arrangement with an interruption period. Wilson et al relied on the teaching for the plurality of the first servo sectors and the plurality of second servo sectors (see col. 5, lines 1-45 and figures 3-4B of Wilson et al).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the servo sectors of Hamaguchi et al with the secondary servo sectors as taught by Wilson et al. The rationale is as follows: one of ordinary skill in the art would have been motivated to provide a robust servo pattern in an imperfect recording medium as suggested in col. 2, lines 53-55 of Wilson et al.

Regarding claim 11: Hamaguchi et al teaches that wherein the head sensitivity characteristic value is set so as to change proportionally (in col. 13, line 66 to col. 14, line 43 of Hamaguchi et al).

Regarding claim 12: Hamaguchi et al teaches that wherein the head sensitivity characteristic value is set so as to change multi-value (in col. 14, lines 26-43 where Hamaguchi et al describes a profile that includes the multi change values).

Regarding claim 13: Hamaguchi et al teaches that wherein the correction unit corrects the position signals using an amplitude ratio of predetermined signals included

in the position signals, and the head sensitivity characteristic value (in col. 14, line 60 to col. 15, line 17 of Hamaguchi et al).

15. The magnetic disk apparatus according to claim 10, wherein the correction unit corrects the position signals, for each cylinder of the magnetic disk, using a different head sensitivity characteristic value set to each cylinder/(or radial positions)(in col. 14, lines 37-43 of Hamaguchi et al).

### ***Allowable Subject Matter***

Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record neither discloses nor suggests the position error in a disk drive that based on the "correction unit corrects the position signals using a ratio of an open loop gain obtained by adding a predetermined amplitude disturbance to a zero-cross frequency, and an open loop gain obtained by adding a large amplitude disturbance to the head sensitivity characteristic value" set forth in the recitation.

### ***Response to Arguments***

Applicant's arguments filed 12/19/05 have been fully considered but they are not persuasive because they are directed to the newly amended claims.

Applicant's arguments with respect to claims (10-13 and 15) have been considered but are moot in view of the new ground(s) of rejection to the newly amended claims.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

This application contains claims (1-9) drawn to an invention nonelected with traverse in reply on 7/5/05. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Wong whose telephone number is (571) 272-7566.

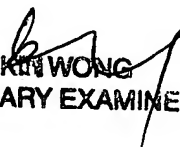
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, H. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2651

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kw

27 Feb 06

  
KIN WONG  
PRIMARY EXAMINER